

WHAT IS CLAIMED IS:

1. A data link, comprising:  
a transmission line having an input and an output;  
a transmitter de-emphasis circuit coupled to said input of said transmission line; and  
an equalizer coupled to said output of said transmission line.
2. The data link of claim 1, wherein said transmitter de-emphasis circuit pre-distorts said transmission line input to compensate for frequency distortion caused by said transmission line.
3. The data link of claim 1, wherein said transmitter de-emphasis circuit has a gain that increases with frequency across a frequency band of interest.
4. The data link of claim 1, wherein a signal loss of said transmission line increases with frequency, and wherein said de-emphasis circuit has a gain that increases with frequency to offset said signal loss of said transmission line.
5. The data link of claim 1, wherein said equalizer is an inductive peaking circuit connected to an output of said transmission line.
6. The data link of claim 5, wherein said inductive peaking circuit further includes an inductor connected to ground at the output of said transmission line.
7. The data link of claim 6, wherein said inductive peaking circuit includes a resistor connected in series with said inductor.
8. The data link of claim 1, wherein said equalizer is a passive equalizer.

9. The data link of claim 1, wherein said de-emphasis circuit reduces an amplitude of low frequency components in said input signal.
10. The data link of claim 1, wherein said transmission line is one of a coaxial cable, an optical fiber, and a twisted pair.
11. The data link of claim 1, wherein said transmission line is differential, and wherein said equalizer includes an inductor between first and second components of said differential transmission line.
12. The data link of claim 11, wherein said equalizer includes a resistor connected in-series with said inductor between said first and second components of said transmission line.
13. A method of communicating data across a data link, comprising:
  - receiving a data signal at a first node;
  - de-emphasizing, at said first node, low frequency components of said data signal relative to high frequency components in said data signal;
  - transmitting said data signal across a transmission line from said first node to a second node;
  - receiving said data signal at said second node responsive to said transmitting step; and
  - de-emphasizing, at said second node, low frequency components of said data signal relative to high frequency components of data signal.
14. The method of claim 13, wherein said step of de-emphasizing at said second node, includes the step of highpass filtering said data signal at said second node.
15. The method of claim 13, wherein said transmission line has a lowpass characteristic and said step of de-emphasizing at said first node includes the step of

pre-distorting said data signal so as to offset said lowpass characteristic of said transmission line.

16. The method of claim 13, wherein said transmission line has a lowpass characteristic and said step of de-emphasizing at said second node includes the step compensating for said lowpass characteristic of said transmission line at said second node.

17. The method of claim 13, wherein said step of de-emphasizing, at said second node, includes the step of shunting said low frequency components in said data signal to ground.

18. The data link of claim 1, wherein said equalizer is a filter network having a nearly constant impedance.

19. The data link of claim 1, wherein said equalizer is a RC filter.

20. The data link of claim 19, wherein said RC filter has a highpass response.

21. The data link of claim 19, wherein said RC filter has a nearly constant input impedance.

22. A data link, comprising:  
a transmission line having an input and an output;  
a transmitter circuit with equalization coupled to said input of said transmission line; and  
an equalizer coupled to said output of said transmission line.

23. The data link of claim 22, wherein said transmitter circuit with equalization pre-distorts said transmission line input to compensate for frequency distortion caused by said transmission line.

24. The data link of claim 22, wherein said transmitter circuit with equalization includes a de-emphasis circuit that has a gain that increases with frequency across a frequency band of interest.

25. A method of communicating data across a data link, comprising:  
receiving a data signal at a first node;  
equalizing said data signal at said first node;  
transmitting said data signal across a transmission line from said first node to a second node;  
receiving said data signal at said second node responsive to said transmitting step; and  
equalizing said data signal at said second node.

26. The method of claim 25, wherein said step of equalizing at said first node includes the step of increasing an amplitude of low frequency components of said data signal relative to high frequency components in said data signal.

27. The method of claim 25, wherein said step of equalizing at said first node includes the step of increasing an amplitude of low frequency components of said data signal relative to high frequency components in said data signal.

28. The method of claim 25, wherein said step of equalizing at said second node includes the step of flattening an amplitude of said data signal for said low frequency components and said high frequency components.